FRIENDS *of* GREAT SALT LAKE

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Bureau of Land Management
Attn: Penny Woods
P.O. Box 12000
Reno, Nevada 89520

Re: SNWA Project

Thank you for allowing this opportunity to submit comments on the Draft Environmental Impact Statement (DEIS) for the Southern Nevada Water Authority's (SNWA) proposed Clark, Lincoln, and White Pine Counties Groundwater Development Project (GWD Project). I submit these comments on behalf of FRIENDS of Great Salt Lake (FRIENDS).

FRIENDS of Great Salt Lake has, as its mission, the preservation and protection of the Great Salt Lake ecosystem and seeks to increase public awareness and appreciation of the Lake through education, research, and advocacy. FRIENDS also seeks to preserve and protect aspects of regional ecosystems that are interconnected with the Great Salt Lake ecosystem, such as Snake Valley. Besides the possible direct impacts of the GWD Project to Great Salt Lake, this proposal has the potential to negatively affect wetland areas that provide stopover points for birds that use the Pacific Flyway of which Great Salt Lake is just one of many stops. On behalf of its members, FRIENDS of Great Salt Lake frequently participates in agency processes related to the management of the Lake and on aspects of regional ecosystems that are interrelated to the Lake. FRIENDS considers this participation to be critical to its mission and to be valuable as a means of influencing the administration of critical public lands and of protecting and preserving the ecosystems associated with those lands.

We recognize that there are still many unanswered questions regarding what the final proposal will look like, and that this uncertainly will not be resolved until completions of testing and modeling, governmental approval processes and agreements, and additional analysis under the National Environmental Policy Act (NEPA) process. However, because the Bureau of Land Management (BLM) has decided to go forward with a Tier 1 DEIS at this time, FRIENDS offers these comments subject to revision as the process continues to unfold.

In general, we will focus our comments on the effects of the proposed groundwater pumping on Snake Valley. With that in mind, it is our position that the SNWA GWD Project, as well as any of the alternatives currently outlined in the DEIS, would cause irreparable and unacceptable damage to the resources in Snake Valley, including Great Basin National Park (GBNP). While, among the alternatives outlined in the DEIS, Alternative D or E would cause

the least impact to Snake Valley, those alternatives still allow for unacceptable negative impacts to the southern portion of the Valley. It is our position that the BLM must prepare and select an additional alternative that would avoid impact to Snake Valley altogether. Unless and until such an alternative is selected, the BLM should choose the No Action Alternative as its preferred alternative for this proposal.

While the DEIS offers what it calls a 3M Plan designed to monitor and mitigate for the negative effects of the groundwater pumping, any possible benefit that could be derived from such a Plan will simply be too little and too late. The impacts of significant amounts of groundwater pumping on the outer fringes of the impacted area could take years to manifest themselves and cannot be instantly reversed. Finally, beyond the confines of Snake Valley, the impacts that the GWD Project will have on the Salt Lake Valley – in terms of decreased water for Great Salt Lake, and increased particulate matter in the Salt Lake airshed – are unacceptable and cannot be allowed.

I. The BLM Cannot Justify Selection of Any of the Proposed Alternatives Without Violating its Obligations Under FLPMA

Under the Federal Land Policy and Management Act (FLPMA), in order to grant approval of the rights-of-way, the BLM must attach terms and conditions that both "minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment," 43 U.S.C. § 1765(a)(ii), and "protect federal property." 43 U.S.C. § 1765(b)(i).

In short, the GWD Project is likely to result in "lasting and irreversible effects on both the agriculture and native vegetation on the Snake Valley." Stefan Kirby and Hugh Hurlow, Hydrogeologic Setting of the Snake Valley Hyrdrologic Basin, Millard County, Utah, and White Pine and Lincoln Counties, Nevada – Implications for Possible Effects of Proposed Water Wells, at 32 (Utah Geological Survey 2005). As discussed below, based on BLM's FLPMA obligations, the DEIS does not offer an alternative that allows for acceptable negative impacts on Snake Valley resources, especially given the potential impact to federal property. Although the DEIS briefly discusses the concept of Federal Reserved Water Rights, the analysis presented by the BLM on this issue is far from adequate. The reserved water rights associated with federal land in Snake Valley constitute federal property that are essential to fulfilling the fundamental purposes of those properties and that the BLM is obligated to protect. The BLM must therefore properly account for these water rights and take whatever action is necessary to protect them. To the degree the agency fails to do that, it is acting contrary to the law.

II. Federal Reserved Water Rights

As noted in the DEIS, in *Winters v. United States*, 207 U.S. 564 (1908), the U.S. Supreme Court clarified that when the U.S. sets aside land for a specific purpose, it also sets aside a quantity of water rights necessary to fulfill that purpose. The concept was further clarified in *Arizona v. California*, 373 U.S. 546 (1963), when the Supreme Court held that before either state got to use its share of water under the Colorado River Compact, all overarching federal water rights had to be accounted for. Specifically, the Court noted that the various Indian reservations created by the United States along the Colorado River had potential claims of approximately 1

million acre-feet of annual river flow. *Id*. at 595. Additionally, the Court noted that "the principle underlying the reservation of water rights for Indian Reservations was equally applicable to other federal establishments such as National Recreation Areas and National Forests." *Id*. at 601. Citing both the Commerce Clause and the Property Clause as the legal basis for the application of reserved water rights to these lands, the Court stated that "[w]e have no doubt about the power of the United States under these clauses to reserve water rights for its reservations and its property." *Id*. at 597-98.

Although the BLM notes that the Nevada State Engineer has yet to adjudicate the water rights associated with SNWA's proposal, it is important to note that the United States' position is that "state law may [only] control federal [water] rights and liabilities" as long as the state law does not "frustrate specific federal purposes or interests." Department of Justice's Office of Legal Counsel, Federal "Non-Reserved" Water Rights, 6 Op. Off. Legal Counsel, 328, 380 (1982). Where Congress specifically directs that federal interests control or where the primary purposes of the federal lands would be frustrated by the application of state law, Federal Reserved Water Rights should be asserted without regard to state law. *Id*. at 381.

When Congress' intent is unclear regarding the amount of Federal Reserved Water Rights set aside for a particular segment of Federal land, the courts have devised a process which requires that the trier of fact: (1) examine the documents reserving the land and the underlying documentation authorizing the reservation; (2) determine the precise Federal purpose to be served by the legislation; (3) determine if water is essential for the primary purposes of the reservation; and, (4) determine the amount of water needed. *See United States v. City and County of Denver*, 656 P.2d 1, 20 (Colo. 1983). It the absence of adjudication of these rights for Snake Valley federal property, this process provides the BLM with a template that it could use to assess determine the appropriate amount of reserved water rights that must be protected.

The precise amount of reserved water rights that are appropriately allocated to federal land depends on the reason the land was set aside in the first place. The fundamental principle is that if land has been set aside for a specific purpose, a quantity of water sufficient to fulfill that purpose has also been reserved. In the DEIS, the BLM provides – at best – a cursory analysis of the Federal Reserved Water Rights impacted by the proposed action. See DEIS at 3.3-65. The agency merely conducted a brief analysis of water rights databases in Nevada and Utah and concluded that although these rights exist, they are unknown. They are not, however, unknowable and the BLM must take whatever action is necessary to ascertain the extent of those water rights. Without this knowledge, the agency cannot fulfill its obligations to provide a sufficient degree of protection to this federal property. As discussed below, the amount of water and the degree of protection that must be afforded to the water rights varies with the type of federal reservation. In order to help clarify the BLM's obligation, what follows is a brief synopsis of the reserved water rights associated with the various types of federal property within Snake Valley beginning with the property that receives the most protection – Great Basin National Park.

A. Federal Reserved Water Rights Protection for National Parks

Courts have consistently given the reserved water rights associated with national parks the highest level of protection. *Cappaert v. United States*, 426 U.S. 128, 140-41 (1976)

(distinguishing the protection of a national monument from the explicitly delineated protection that Congress intended for the national park lands); *United States v. New Mexico*, 438 U.S. 696, 709 (1978) ("Any doubt as to the relatively narrow purposes for which national forests were to be reserved is removed by comparing the broader language Congress used to authorize the establishment of national parks"); *City and County of Denver*, 656 P.2d at 28-30 (accepting the government's arguments that National Parks are entitled to in-stream flows for such recreational purposes as river rafting, the same would not necessarily hold true for a national monument).

This is in line with the degree of protection of National Park resources provided by Congress in the National Park Service Organic Act of 1916. 16 U.S.C. § 1-18f. In fulfilling its obligations under the Organic Act, the Department of Interior (DOI) has outlined the various uses of national parks which carry with them reserved water rights. They are:

- Ecosystem maintenance, including protection of forest growth and vegetative cover, watershed protection, and soil and erosion control;
- Maintenance of water-related aesthetic conditions, including minimum stream flows and lake levels;
- Wildlife conservation uses, such as protection, reproduction and management of migratory wildlife and birds, as well as fish and other aquatic life;
- Sustained public uses, such as visitor accommodations and visitor enjoyment of the scenic, natural, historic and biotic park resources; and,
- Water-borne public enjoyment and recreation.

Department of Interior Solicitor, Federal Water Rights of the National Park Service, 86 Interior Decision 553, 596 (1979) (hereinafter Krulitz Opinion).

1. Great Basin National Park

In order to determine the appropriate amount of reserved water rights necessary to support Congress' intention when establishing Great Basin National Park (GBNP) and provide those water rights with the appropriate level of protection, we must first examine the Park's enabling legislation and the provisions outlined in that legislation related to reserved water rights.

Great Basin National Park was established on October 27, 1986, and encompasses land that had been previously set aside as the Lehman Caves National Monument and the Humbolt National Forest's Wheeler Peak Scenic Area. Great Basin National Park Act of 1986, 16 U.S.C. § 410mm-1(h). In the Park's enabling act, Congress specified that "[n]othing in this Act shall be construed to establish a new express or implied reservation to the United States of any water or water-related right" and that "the United States shall be entitled to only that express or implied reserved water right which may have been associated with the establishment and withdrawal of Humboldt National Forest and the Lehman Caves National Monument." *Id*.

In order to determine the amount of protection required for the Park's water resources, it is necessary to examine the degree of protection of the rights afforded for both the National Monument and the National Forest areas that existed prior to the Park's establishment, and to correlate that with the appropriate degree of protection for both the Park's water rights and for the fundamental purposes of the Park as whole.

2. Federal Reserved Water Rights for National Monuments

The amount of protection afforded reserved water rights for national monuments is specifically tied to the stated intention of a monument's reservation. For instance, in *Cappaert v. United States*, 426 U.S. 128 (1976), the Department of Interior (DOI) brought a challenge to counteract the degradation of water levels in Devil's Hole, a component of the Death Valley National Monument. Devil's Hole is a deep limestone cavern in Nevada that contains a "remarkable underground pool" that has a peculiar race of desert fish found nowhere else in the world. *Cappaert*, 426 U.S. at 132. As a result of ground water pumping on the nearby Cappaert ranch, water levels of the pool in Devil's Hole decreased, endangering the fish.

In issuing an injunction limiting the amount of water that the Cappaerts were allowed to pump, the U.S. District Court held that when setting aside the Monument, the President had also reserved the water necessary to fulfill the purpose of the reservation. *Id*. at 135. The Ninth Circuit Court of Appeals affirmed the District Court's ruling and held that the implied water reservation applied to groundwater as well as surface water. *United States v. Cappaert*, 508 F.2d 313, 317-18 (9th Cir. 1974). The Supreme Court agreed with the Ninth Circuit that the United States could assert the reserved water rights associated with the Monument against any groundwater use that degraded the purpose of the reservation. *Cappaert*, 426 U.S. at 137. The Court stated, "when the federal government reserves land, by implication it reserves water rights sufficient to accomplish the purposes of that reservation." *Id*. On the issue of the distinction between groundwater and surface water, the Court noted that while it had not directly stated that there was a connection between the two, the connection clearly exists and any argument trying to make a distinction between them was futile. *Id*. at 141-42.

3. Federal Reserved Water Rights for National Forests

In *United States v. New Mexico*, 438 U.S. 696 (1978), the Supreme Court referred back to the *Cappaert* decision for the proposition that within the national forests, the United States was entitled to the amount of water needed to fulfill the purpose of the reservation. *Id*. at 700. By examining the Creative Act of 1891, 16 U.S.C. § 471 (repealed in 1976), and the Organic Administration Act of 1897, 16 U.S.C. § 475, the Court interpreted Congress' intent to mean that national forest land were reserved for only two purposes: "to conserve the water flows, and to furnish a continuous supply of timber for the people." *New Mexico*, 438 U.S. at 707-08. Therefore, reserved water rights associated with national forests are limited to the water necessary to fulfill those purposes.

4. Applying Federal Reserved Water Rights to Groundwater Withdrawals

As noted in *Cappaert*, "ground water and surface water are physically interrelated as integral parts of the hydrologic cycle." *Cappaert*, 426 U.S. at 142 (quotations and citations omitted). The United States Geological Survey (USGS) agrees with that position and has found that "[n]early all surface-water features . . . interact with ground water . . . [and that] pumpage of ground water can deplete water in streams, lakes or wetlands." Thomas C. Winter, Judson W. Harvey, O. Lehn Franke & William M. Alley, Ground Water and Surface Water: A Single Resource, III (USGS 1998). Noting that "the importance of considering ground water and

surface water as a single resource has become increasingly evident," the USGS went on to note that "[t]he interaction of ground water and surface water has been shown to be a significant concern." *Id*. at 1.

Although the question of whether Federal Reserved Water Rights attach to groundwater is "technically open," A. Dan Tarlock, Law of Water Rights and Resources, at 9-44 (Clark Boardman Callaghan 1988), statements by both federal and state water agencies, as well as federal courts have pointed to the physical connection between groundwater and surface water. Given that these water bodies are viewed as integrally connected, they should be considered a single unit, and dictates that the concept of Federal Reserved Water Rights be applied to the type of groundwater pumping proposed by SNWA in this DEIS.

5. Federal Reserved Water Rights for Great Basin National Park

While Great Basin National Park's enabling act did not set aside additional water rights for the Park, it did preserve the reserved water rights for the Lehman Caves National Monument and the Humbolt National Forest's Wheeler Peak Scenic Area existing prior to the Park's establishment. The enabling act also gave the National Park Service (NPS) clear direction to manage the Park in a manner "generally applicable to units of the national park system." 16 U.S.C. § 410mm-1(a). In line with that instruction, therefore, management of the Parks' resources – to include reserved water rights – must conform with the mandate in the Park Service Organic Act requiring the Secretary to "protect, manage, and administer the park in such manner as to conserve and protect the scenery, the natural, geologic, historic, and archaeological resources of the park, including fish and wildlife and to provide for the public use and enjoyment of the same in such a manner as to perpetuate these qualities for future generations." 16 U.S.C. § 1.

Contrary to those instructions, however, all of the proposed alternatives would – to varying degrees – infringe on the Park's reserved water rights and negatively impact Park resources. A USGS survey conducted in cooperation with the NPS shows that the pumping proposed by SNWA directly threatens a number of streams, springs and seeps within the Park. *See* Tod Williams, Bio-Physical Resources of Concern Associated with Proposed Ground Water Withdrawal, at 1 (NPS 2006). The study further concluded that any decreases in flow resulting from pumping from the SNWA wells could adversely affect water-dependent biological and geological resources within the Park, as well as the Park's water supply. *Id*. Specifically, the combined proposed groundwater pumping of both Spring and Snake valleys have the potential to affect 6,040 acres on the east side of the Park, including four stream systems totaling 9.25 miles, 18 wetlands totaling 137 acres, 25 or more perennial springs, 156 acres of riparian habitat, and 23 cave systems including Lehman Caves. *Id*.

In addition to the USGS study presenting evidence that the SNWA proposal will pose a significant threat to Park resources in direct conflict with federal law, the DEIS confirms that these impacts are likely to occur. *See generally* DEIS Section 3.3. The information available to Congress at the Park's inception indicated that the amount of water originating in and flowing from the Park in its normal precipitation cycle, along with the surface and subsurface manifestations of local aquifers under artesian pressure, would be sufficient to fully meet the Park's needs. The only reasonable conclusion is that Congress intended to protect against any

unforeseen infringement on Park resources, and SNWA's GWD Project poses an unacceptable threat to that purpose and cannot be allowed by the BLM.

B. Mount Moriah Wilderness Area

The Wilderness Act of 1964 was designed to provide for the "preservation and protection [of wilderness areas] in their natural condition . . . [in order] to secure for the American people of present and future generations the benefits of an enduring resource of wilderness." 16 U.S.C. § 1131-36 (2003). As early as 1979, the DOI concluded that a formally designated wilderness area was entitled to the reserved water rights necessary to fulfill the purposes of the Wilderness Act. Krulitz Opinion at 609-10. This protection included water for the maintenance of minimum stream flows and lake levels, as well as for ecological maintenance such as evapotranspiration for natural communities. Id.

The federal courts that have decided the issue have held that there is a clear reservation of the amount of water necessary to maintain the viability of wilderness areas. *See, e.g., Sierra Club v. Block*, 622 F.Supp. 842, 862 (D. Colo. 1985) ("[I]t is implied from the Wilderness Act that Congress reserved water rights in the wilderness areas to the extent necessary to accomplish the purposes specified in the act."). To the extent that Congress intended that water be set aside for wilderness areas, those rights are entitled to the full protection of the law. As one commentator noted:

> [i]f wilderness reserved rights exist, the government vests them as federal property in constructive custody of the Secretary of Agriculture (or Interior) in much the same way that gold in the custody of the federal official commanding Fort Knox. No one would claim that the commander of Fort Knox lacked an enforceable duty to refrain from losing the gold by inaction or default. So too, no one should say that the Secretary can sit idly by and fail to prevent the destruction of vested federal property rights, especially when the rights sub judice are by definition 'necessary' to his mission of manager of wilderness.

Robert H. Abrams, Water in the Western Wilderness: The Duty to Assert Reserved Water Rights, 1986 U. Ill. L. Rev. 387, 398 (1986).

In addition to stating that provisions of the Wilderness Act govern the administration of the Mount Moriah Wilderness Area, section 8(a) of the Area's enabling act states that the quantity of water sufficient to fulfill the purpose of the Mount Moriah Wilderness Area was reserved with those rights having a priority date of December 5, 1989, the date of the Act. Nevada Wilderness Protection Act of 1989, Pub. L. No. 101-195, § 2, 103 Stat. 1784 (1989). The Act goes on to state that these rights will be in addition to any water rights that may have been previously reserved for the Area, such as those associated with the Humboldt National Forest. Id.

Because Congress' clear intent was to protect the reserved water rights for Mount Moriah, to the degree that the SNWA groundwater pumping within Snake Valley negatively affects the Area, it must be disallowed. It should also be noted that several Wilderness Study Areas (WSA) are located within the Utah portion of Snake Valley. Specifically, the BLM has

designated portions of Cougar Mountain, the Fish Springs Range and the Deep Creek Mountains as WSAs. Under the provisions of FLPMA, the BLM is required to manage the WSAs "in a manner so as not to impair the suitability of such areas for preservation as wilderness." 43 U.S.C. § 1782(c). This protection must be extended to the water necessary to preserve these lands as wilderness areas, and any possible negative effects of SNWA's proposal on these WSAs cannot be allowed.

C. Federal Reserved Water Rights for Fish Springs National Wildlife Refuge

The Fish Springs National Wildlife Refuge was established in 1959 under the Migratory Bird Conservation Act. 16 U.S.C. § 715(d). The Refuge totals 17,992 acres and has over 10,000 acres of wetlands. In *Arizona v. California*, the U.S. Supreme Court specifically acknowledged that the United States could reserve water sufficient to fulfill the purposes of the national wildlife refuges. 373 U.S. at 601. Consisting of "all lands, waters, and interests therein administered by the Secretary for wildlife refuges," National Wildlife Refuge System Administration Act of 1966, 16 U.S.C. § 668dd(a)(1), the parcels that fall within the National Wildlife Refuge System are entitled to the reserved water rights "reasonably necessary to fulfill the purposes of the refuge." Krulitz Opinion, at 604. These purposes include all consumptive and non-consumptive water uses necessary for the conservation of migratory birds and other wildlife, as well as attendant personnel needs. *Id*.

The Fish Springs Refuge was set aside as an inviolate sanctuary for migratory birds, and therefore the reserved water rights reasonably necessary to fulfill that purpose are entitled to protection under the law. Additionally, the Refuge has perfected water rights on file with the Utah Division of Water Rights totaling 32,000 afy. To the degree that the Snake Valley withdrawals would impact Fish Springs reserved water rights, they must be disallowed.

D. Public Water Reserve Water Rights.

In addition to water rights under Utah law, several of the springs within the Fish Springs Refuge were included in the 1912 Public Water Reserve designation and are entitled to Public Water Reserve # 107 protection. Public Water Reserve # 107 (PWR 107) is an Executive Order signed by President Coolidge in 1926. In that year, the Secretary of the Interior advised the President that protection of springs and water holes on federal land was necessary to protect grazing areas. Letter to the President from the DOI Secretary, April 17, 1926, as quoted in *United States v. Idaho*, 959 P.2d 449, 452 (Idaho 1998). Subsequent to receiving that letter, and under authority granted him by the Stock Raising Homestead Act, 43 U.S.C. 291, *et seq*., President Coolidge ordered that public lands containing a spring or water hole, and all land within one quarter mile of that spring or water hole, be withdrawn and reserved for public use. *Idaho*, 959 P.2d at 451.

While the courts have varied in the level of protection given to PWR 107 water rights, the Interior Board of Land Appeals considers the reservation to apply to those bodies of water needed or used by the public which are capable of providing enough water for general use. *John V. Hyrup*, 15 IBLA 412, 419-20 (1974). Under PWR 107, both the Fish Springs Public Water Reserve designations, as well as the numerous springs and water holes scattered throughout BLM land in Snake Valley that are being used for domestic and stock water needs, are to

protection from SNWA ground water withdrawals. Therefore, to the extent that the GWD Project infringes on those water rights, the BLM must disapprove that Project.

E. The BLM Must Account for and Protect all Federal Reserved Water Rights

In the DEIS, the BLM completely failed in its obligation to account for the Federal Reserved Water Rights that could be impacted by SNWA's proposed action. Because the DEIS provides nothing more than a cursory discussion of the concept of these water rights, DEIS 3.3-65, the BLM does not have the information it needs to make a decision adequately protective of this federal property. As a reason for this, the BLM states that the water rights have not been adjudicated at the state level and it therefore has nothing to go on. However, it is not enough for the agency to sit by and wait for the states to take action on this issue. Rather, NEPA requires the agency to obtain the information it needs to make an informed decision if it can be done without exorbitant cost. *See* 40 C.F.R. § 1502.22(a). Alternately, if the information cannot be obtained because the overall cost of obtaining it is exorbitant or the means of obtaining it are not known, the agency must: (1) state that such information is incomplete or unavailable; (2) state the relevance of such information; (3) summarize the existing credible evidence relevant to evaluating impacts; and (4) evaluate such impacts upon theoretical approaches or generally accepted research methods. 40 C.F.R. § 1502.22(b). Because the BLM has not either determined that the cost to obtain the needed information is too expensive, or performed the alternative analysis, the DEIS is inadequate. This deficiency must be corrected.

III. Incomplete Modeling

An additional area of concern, because it is not well understood, is the connection of the carbonate aquifer from one basin to another and the connection between the basin-fill aquifer and the carbonate aquifer beneath it. SNWA has identified nine "points of diversion" in Snake Valley, all within Nevada, and all bordering GBNP. Groundwater Application Points of Diversion Locations, http://water.nv.gov/hearings/spring%20valley%20 hearings/SNWA/0.%20Overview/OV_POD_11502.pdf. As initially proposed by SWNA, these points of diversion consist of preliminary estimates of between 15 to 25 groundwater production wells. GWD Final Scoping Package, unnumbered 18, http://water.nv.gov/hearings/spring %20valley%hearings/SNWA/0.%20Overview/final%scoping%20package.pdf. SNWA has acknowledged that its Snake Valley pumping will affect springs and spring-dependent sensitive species, including Big Springs and Little Springs in Nevada and Tule Valley in Utah, as well as groundwater dependent communities, aquatic riparian areas and their associated sensitive species. *Id*.

Specifically, what remains unanswered is the affect that the SNWA pumping will have on the basin-fill aquifer that supplies the residents of Snake Valley, and whether pumping large amounts of water over extended periods of time will lower the hydrologic head of the carbonate aquifer on the fringes of the valley. Until these questions are resolved, it would be imprudent to move forward with approval of any alternative that allows groundwater pumping affecting Snake Valley.

IV. The 3M Plan is Inadequate

The Monitoring, Mitigation and Management (3M) Plan outlined in the DEIS for Snake Valley, DEIS 3.3-118 and Appendix B, is inadequate because it does not account for the negative environmental effects of future groundwater development and long-term effects of groundwater production. The reason for this deficiency is because of the delayed effect of pumping at some distance from the site of pumping and the inability to immediately correct any negative impacts from the pumping. Specifically, the proposed action calls for between 39 and 48 separate wells in Snake Valley with a majority of this pumping taking place within the Valley's confined aquifer. This pumping will create what is referred to as a cone of depression around each well which will manifest itself in the form of a reduction in hydrologic head in the surrounding area. Although the impact will be more quickly seen in the area closest to the well, over time the cone-shaped depression will begin impacting an area some distance from the well.

Of course, the greater the amount of water pumped in a given span of time, the further the cone of depression will spread. Because it could take many years – even up to a decade – before the effects of the pumping are seen in the outlying regions of the cone, a monitoring plan that identifies impacts in an area far removed from the well is likely to be too little and too late. Reversing the negative effects of this pumping is not as simple as turning off a light switch and expecting the problem to correct itself. Little is known about the rate at which water within the aquifers is replaced, but no models show that it will be replenished as quickly as it is withdrawn. Even assuming that water within the aquifers is replaced at the same rate that it was withdrawn, it could take years for any effect to be reversed; much too late to repair an ecosystem that has been fundamentally and irreversibly damaged.

The fact of the matter is that because the timeframe within which the Snake Valley aquifer was charged is unknown, it is possible that a sufficient recharge of that aquifer – enough to offset negative effects of pumping for a given resource – will never occur. While the DEIS states that there is not enough information to evaluate the possible impacts of climate change on the affected area, DEIS 3.5, it does acknowledge that the temperature in the area is likely to increase, DEIS 3-1.11, and the amount of water availability is likely to decrease. DEIS 3-1.12. Without a sense of how long it would take for a sufficient recharge to occur to offset the impacts of a cone of depression from the pumping, it is impossible to state with any certainty that mitigation measures would be adequate to protect sensitive water-dependent features within Snake Valley. DEIS 3-12. Therefore the proposed 3M Plan must be modified to take into account this phenomenon.

V. Impact on Big Springs and Pruess Lake

All of the alternatives contained within the DEIS show a reduction in the flow of water from Big Springs, resulting in reduced flows into Lake Creek, and then Pruess Lake. The DEIS goes on to acknowledge that these riparian/wetland habitats will be destroyed, negatively impacting populations of wildlife and birds. Currently, there are year round populations of golden eagle and winter populations of bald eagle that use this corridor for resting, foraging, and roosting (bald eagles in the winter). If water levels in these water bodies are reduced, there will be no open water habitats in the winter for waterfowl and no bald eagle foraging habitat in the

region. Similar impacts to other migratory birds and raptors would occur during migratory and breeding seasons. At this time, the governmental agencies that manage populations of bald and golden eagles under the Bald and Golden Eagle Protection Act do not know the population trends of eagles in this area. Snake Valley is already heavily degraded from livestock grazing and agricultural practices, and the cumulative impacts of these land uses along with the proposed project would destroy existing habitat for eagles and other wildlife in the region.

VI. Loss of Water into the Great Salt Lake Desert Flow System

Water is precious throughout the West, but no more so than in the area surrounding Great Salt Lake and the Great Salt Lake Desert. As has been noted, Great Salt Lake is of significant importance locally, nationally and internationally. R. 586-603; Robert W. Adler, *Toward Comprehensive Watershed-Based Restoration and Protection for Great Salt Lake*, 1999 Utah L. Rev 99, 109-114 (1999). For example, annual waterfowl use exceeds five million birds and between two and five million shorebirds rely on the Lake each year. The Lake provides essential habitat to at least 257 species of birds, almost half of which nest there. Most of the remaining species stop over at the Lake seasonally each year to feed and rest on their migration routes. In recognition of its critical role in these long flights, Great Salt Lake has been designated as one of only nineteen sites in the Western Hemisphere Shorebird Reserve Network.

The critical importance of the Lake to birds is borne out by the sheer numbers of particular species that depend on it. For example, the Lake supports 80 percent of all Wilson's phalaropes, the most American avocets and black neck stilts found in any wetland along the Pacific Flyway, the largest staging concentration of eared grebes in North America, the largest breeding populations of white-faced ibis and California gulls, over half of the entire breeding population of snowy plovers west of the Rocky Mountains, more than three quarters of the entire western population of tundra swan, what is perhaps the largest breeding colony of American white pelicans, the only staging area for marbled godwits in the interior United States and one of the ten largest wintering populations of bald eagle in the lower 48 states.

The DEIS notes that the proposed action threatens an inter-basin transfer of water from Snake Valley into the Great Salt Lake Desert basin of 24,000 afy. DEIS 3-3.56. The DEIS also notes that flows from the Snake Valley aquifer terminate at Great Salt Lake, with an intermediate discharge at Fish Springs. DEIS 3.3-3. Continued growth along the Wasatch Front has significantly affected water flows into Great Salt Lake, and growth forecasts show a doubling of population in the area over the next 50 years. Because of its importance, all sources of water into the Lake must be protected, and any additional groundwater withdrawals which have the potential to impact the Lake, such as those proposed by the SNWA pumping, should not be approved.

VII. Negative Impacts on Air Quality Due to Particulate Matter

The DEIS also notes several negative impacts to air quality due to wind erosion of surfaces disturbed by pumping. As the DEIS notes, GBNP has some of the best level of visibility in the nation, a critical asset that could be adversely affected by the proposed action. So too, the amount of particulate matter generated by the proposed action, 34,700 tons per year

of PM_{10} and 3,470 tons per year of $PM_{2.5}$, is significant. DEIS 3.1-36. The DEIS does not adequately account for the impact of that generation on the Utah County and Salt Lake County airsheds, and this deficiency must be corrected. Both of these airsheds have been significantly impacted by particulate matter blowing in from the south, and both would be negatively affected by the proposed action. It is insufficient for the BLM to assume that "only a very small fraction" of that particulate matter would be transported north into the Salt Lake Valley. DEIS 3.1-60. The agency must properly model and account for this impact and it must deny approval of any action that would contribute to an already worsening situation.

Conclusion

FRIENDS appreciates this opportunity to comment on the DEIS for the SNWA GWD Project and we look forward to BLM's responses to the concerns we have expressed and the agency's continued efforts to determine the possible impacts associated with this proposal.

ROB DUBUC
President